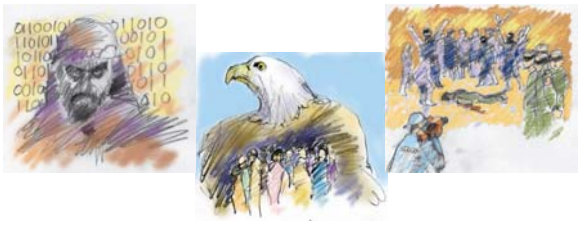

advanced concepts group

what is the ACG?

The ACG is a "technical think tank" at Sandia National Laboratories. It was formed in 1999 to investigate potential contributions which Sandia National Laboratories might make to solve long-range future problems that impact national and global security. Led by Sandia VP and Principal Scientist, Gerry Yonas, the group consists of approximately 12 staff chosen from across the Laboratories serving rotational assignments of 2 to 3 years. The technical backgrounds are diverse within the group augmented by other expertise within Sandia through informal partnering and by university personnel and other consultants. The structure within the group is very flexible and, in fact, this is somewhat of an experiment in collaborative problem solving. The goal is to harness the collective knowledge and creativity of a diverse technical group to solve perceived future problems of importance to the security of our nation.

The ACG began by subdividing the problem space into four areas and forming teams to study these areas. The basic premise was that problems of the *Human Condition* or of *Global Resources* tend to lead the world into conflicts—either *War* or *Conflicts Short of War*.

Since the events of 9/11, the ACG has primarily focused on topics related to the global War on Terrorism: covering the gamut of understanding the terrorist threat, improving our ability to anticipate and respond, and improving our options for finding and stopping terrorists.

purpose and goals

The ACG strives to develop or advance new concepts useful in meeting the future challenges in national and global security. It deals in ideas and system level solutions—exploring just deep enough to determine the actual usefulness and feasibility of concepts and find or create "owners" for the concepts. A success within the ACG is the transference of an idea to someone within the labs or within the government who can make the idea into reality.

how do we work?

The ACG is using an unusual approach for an institution of its kind. The 4-step process looks like this:

- *First* identify risks that might dominate the national agenda within the global context in the next ten to twenty years.
- Use these future problems as driving forces to derive *system solutions* within the economic and political constraints of the future.
- Identify *advances in science and technology* that would be needed to make the systems successful in preventing or mitigating those future problems.
- *Finally*, look for scientific and technical contributions that Sandia National Laboratories might make.

The ACG approach is "collaborative" thinking. Our motto is that "none of us are as smart as all of us." We are always looking for collaborators in our endeavors. Within the Labs, we try to use brainstorming sessions on Friday mornings to engage others. We also use our internal research dollars to encourage Sandia collaborators to further develop our ideas. We have begun to engage outside collaborators through no fee partnerships. The alumni of the ACG are also encouraged to stay involved and bring more partners to our discussions.

POC:

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